



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,074	01/28/2004	Michael Scorer	20272-00722-US	2280
30678	7590	05/24/2005	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ LLP SUITE 800 1990 M STREET NW WASHINGTON, DC 20036-3425			LEE, BENNY T	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

EXAMINER'S DATA

EXAMINER'S DATA

ART UNIT NUMBER

DATE

EXAMINER'S DATA

A 214

- ☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.
- A shortened statutory period for response to this action is set to expire Three (3) month(s), _____ days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-12 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1, 2, 4-8; 9; 10; 11 are rejected.
5. ☐ Claims 3; 12 are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____ Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction; filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____ filed on _____
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

SN 765064

U.S.GPO:1990-259-282

Art Unit: 2817

The disclosure is objected to because of the following informalities: Page 1, line 10 note that a should follow "make" for clarity of description; line 11, note that the should precede "connection" for clarity of description; line 13, note that "BRIEF" should be deleted as being unnecessary. Page 6, line 6, note that "with addition of 100" should be rephrased for clarity.

Appropriate correction is required.

The disclosure is objected to because of the following informalities: Note that for the collective descriptions of figures 2 to 4 (pages 4, 5) and figures 7 to 9 (page 6), the reference labels therein should reference those drawing figures in which they actually appear, unless they appear in each drawing figure of the collective description.

Examples. Include: "wall 11", (Figs 2, 3) --; "end 15", -- (Fig. 2) --; "lower edge 25" -- (Figs. 2, 4) --; "transition 110", -- (Figs. 7, 8) --; "cube 45", "lower edge 25", (Figs. 2, 4) --; "transition 110", (Figs. 7, 8) --; "cube 45", (figs. 8, 9) --; etc. Also note that the following reference labels need description relative to the corresponding drawing figure: "5" figs. 1, 2 (11, 62, 63) -- fig. 1 --; "26", -- Fig. 5 --; (104, 123), figs. 7, 8; "121" fig. 7 -- (116, 120) fig. 8 --

Appropriate correction is required.

The drawings are objected to because of the following: In figs. 2, 3, 7, 8, note that the "dielectric bead" (e.g. 16) needs to be properly cross-hatched to reflect a dielectric material; in figs. 2, 4, note that the "upper wall" should be labeled 62. In fig. 3, note that short circuit wall -- 60 -- needs to be labeled; in fig. 6 note that the "conductor rod" should be labeled -- 21 --. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any

Art Unit: 2817

amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The following claims have been found objectionable for reasons set forth below:

In claims 1, 2, 9, 10, 11, note that "said conductor" should be rephrased as "said first conductor" at each occurrence for consistency of description.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-7, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perrault et al in view of Watanabe.

Perrault et al discloses a transition between a coaxial conductor (1, 2) and a rectangular waveguide (25). The rectangular waveguide has narrow walls (e.g. 4) and broad walls (3, 15). The inner conductor (2) includes a conductor portion (7, 9) which protrudes through narrow wall (4) into the waveguide. The protruding conductor portion is terminated by a strap or plate (8) which electrically connects the protruding conductor portion centrally to a broad wall along a propagating direction as shown in fig. 3. Note that an insulation bead (6) is disposed between inner conductor parts (2, 9) and outer conductor (1). However, Perrault et al differs from the claimed invention in that the conductive plate does not have a configuration which is greater in height adjacent the inner conductor and lesser in height away from the conductor.

Watanabe discloses the exemplary use of a tapered ridge or plate disposed longitudinally within a rectangular waveguide to provide transition of signals from the waveguide to a transmission line.

Accordingly, it would have been obvious to have modified the plate (8) of Perrault et al to have a tapered shape as exemplarily taught by Watanabe. Note that as known to those of ordinary skill in the art, a tapered plate provides for a smooth continuous signal propagation path, thereby providing the benefit of improved impedance matching to the Perrault et al transition and thus suggesting the obviousness of such a modification. Furthermore, those of ordinary skill in the art would have recognized that waveguide transitions, such as ^{as} in the above combination, are capable of use in antenna applications.

Art Unit: 2817

Claims 1, 2, 5-7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perrault et al in view of Agrawal et al.

Perrault et al, as described above, discloses the claimed invention except for the stepped plate longitudinally disposed within the waveguide.

Agrawal et al exemplary discloses that stepped plates (e.g. 46) are conventionally used in transitions between a waveguide and a coaxial line to provide for improved impedance matching.

Accordingly, it would have been obvious to have modified the plate (8) of Perreault et al to have been a stepped type plate, ⁵ as exemplarily taught by Agrawal, et al to provide for the benefit of improved impedance matching, thereby suggesting the obviousness of such a modification.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the above rejections as applied to claim 1 above, and further in view of Ikeda.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perrault et al and Watanabe taken together in view of Ikeda.

Note that the combination of Perrault et al and either Watanabe (for cls. 8, 10) or Agrawal et al (for cl. 8 only) discloses the claimed invention except for a coaxial line which has a right angle bend outside the waveguide.

Ikeda (figs. 6-8) discloses a transition between a coaxial line and a rectangular waveguide where the coaxial line has a right angle bend external of the waveguide such as to be parallel to the adjacent waveguide wall.

Art Unit: 2817


Accordingly, it would have been obvious to have further modified the coaxial line of either one of the combinations described above to have been a bent line configuration as taught by Ikeda. Such a modification would have been obvious since the bent configuration provides the benefit of a more compact configuration, thereby suggesting the obviousness of such a modification. Note that as an obvious consequence of such a modification, the bent coaxial line configuration in the combination would have been parallel to the narrow wall of the waveguide.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shih et al pertains to a L-shape plate for a waveguide transition. Chan et al pertains to a sidewall coupled loop transition.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (571)272-1764.

Lee/ds

05/03/05.


Benny T. Lee
Primary Examiner